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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/500,112

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Yasuo Uemura

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EXAMINER

SMITH, CAROLYN L

ART UNIT

PAPER NUMBER

1631

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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31 DAYS

04/02/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/500,112

Applicant(s)

UEMURA ET.AL.

Examiner

Carolyn L. Smith

Art Unit

1631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-24 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1, 13, and 19, drawn to an RNA sequence analyzer, program, and computer readable recording medium that sorts and outputs parse trees, classified in class 703, subclass 2.
- II. Claims 2, 14, and 20, drawn to an RNA sequence analyzer, program, and computer readable recording medium that applies multiple RNA sequences to a grammar and outputs RNA sequences, classified in class 703, subclass 11.
- III. Claims 3, 15, and 21, drawn to an RNA sequence analyzer, program, and computer readable recording medium that extracts RNA sequences and has a common structure matrix creation step, classified in class 706, subclass 13.
- IV. Claims 4, 16, and 22, drawn to an RNA sequence analyzer, program, and computer readable recording medium that produces RNA and predicts genes, classified in class 706, subclass 21.
- V. Claims 5, 17, and 23, drawn to an RNA sequence analyzer, program, and computer readable recording medium that calculates similarity among RNA sequences, classified in class 702, subclass 19.
- VI. Claims 6, 18, and 24, drawn to an RNA sequence analyzer, program, and computer readable recording medium that creates a goodness-of-fit matrix and sorts structural topologies, classified in class 707, subclass 7.

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- VII. Claim 7, drawn to a method that sorts and outputs parse trees, classified in class 703, subclass 2.
- VIII. Claim 8, drawn to a method that applies multiple RNA sequences to a grammar and outputs RNA sequences, classified in class 702, subclass 27.
- IX. Claim 9, drawn to a method that extracts RNA sequences and has a common structure matrix creation step, classified in class 706, subclass 13.
- X. Claim 10, drawn to a method that produces RNA and predicts genes, classified in class 702, subclass 20.
- XI. Claim 11, drawn to a method that calculates similarity among RNA sequences, classified in class 707, subclass 6.
- XII. Claim 12, drawn to a method that creates a goodness-of-fit matrix and sorts structural topologies, classified in class 707, subclass 7.

The inventions are distinct, each from the other because of the following reasons:

Inventions I-VI and VII-XII are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case methods of Groups VII-XII can be done manually.

Inventions I-VI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and

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effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions contain distinct units that are not required by the other apparatuses, programs, and computer readable recording media. The apparatus of Group I includes a sorting unit and output unit for outputting parse trees not found in the other apparatuses. The apparatus of Group II includes an output unit for outputting RNA sequences that differs in the design from the other apparatuses. The apparatus of Group III includes an extraction unit and common structure matrix creation unit that differs in the design from the other apparatuses. The apparatus of Group IV includes an RNA sequence production unit and gene prediction unit that differs in the design from the other apparatuses. The apparatus of Group V includes a similarity calculation unit that differs in the design from the other apparatuses. The apparatus of Group VI includes a goodness-of-fit matrix creation unit and a common structure extraction unit that differs in the design from the other apparatuses. This difference in designs, modes of operation, and effects documents that Groups I-VI are independent inventions.

Although there are no provisions under the section for "Relationship of Inventions" in M.P.E.P. § 806.05 for inventive groups that are directed to different processes, restriction is deemed to be proper because these methods appear to constitute patentably distinct inventions for the following reasons: Groups VII-XII are directed to methods and units that recite structurally and functionally distinct elements, are not required one for the other, and/or achieve different goals. The method of Group VII includes sorting and outputting parse trees which differs from the other methods. The method of Group VIII includes outputting RNA sequences that differs from the other methods. The method of Group IX extracts RNA sequences and has a common structure matrix creation step that differs from the other methods. The method of

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Group X produces RNA and predicts genes that are goals that differ from the other methods.

The method of Group XI calculates similarities which is a goal that differs from the other methods. The method of Group XII creates a goodness-of-fit matrix and sorts structural topologies that differs from the other methods. These distinct processes and methods are often separately characterized and published in literature and would add undue search burden if they were all examined together. Thus, they are considered distinct invention types for restriction purposes.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement may be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28,

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1993) (See 37 CFR §1.6(d)). The Central Fax Center number for official correspondence is (571) 273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carolyn Smith, whose telephone number is (571) 272-0721. The examiner can normally be reached Monday through Thursday from 8 A.M. to 6:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla, can be reached on (571) 272-0735.

March 21, 2007

A handwritten signature in cursive script, appearing to read 'Carolyn Smith', written in black ink.

Carolyn Smith
Examiner
AU 1631